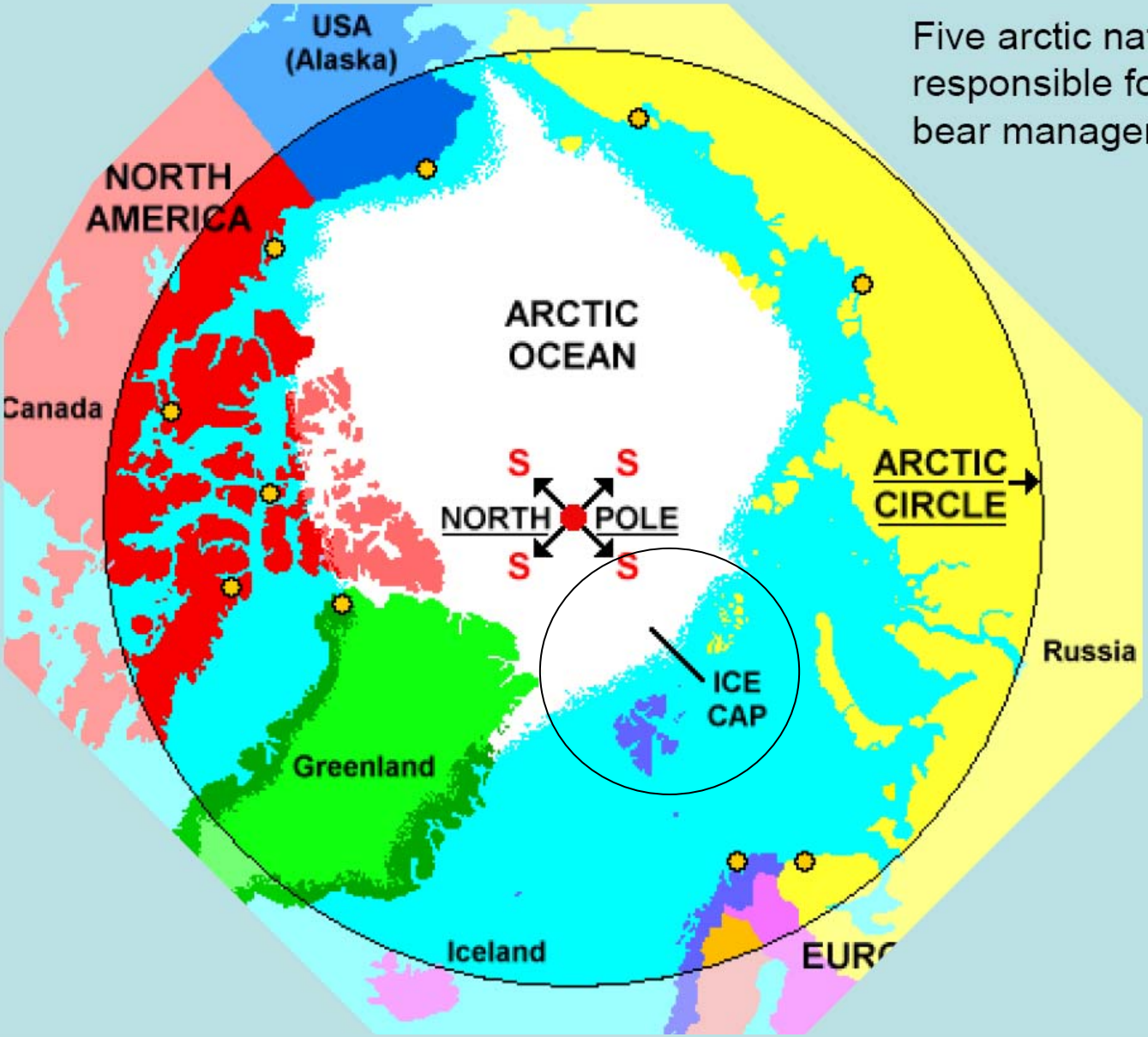
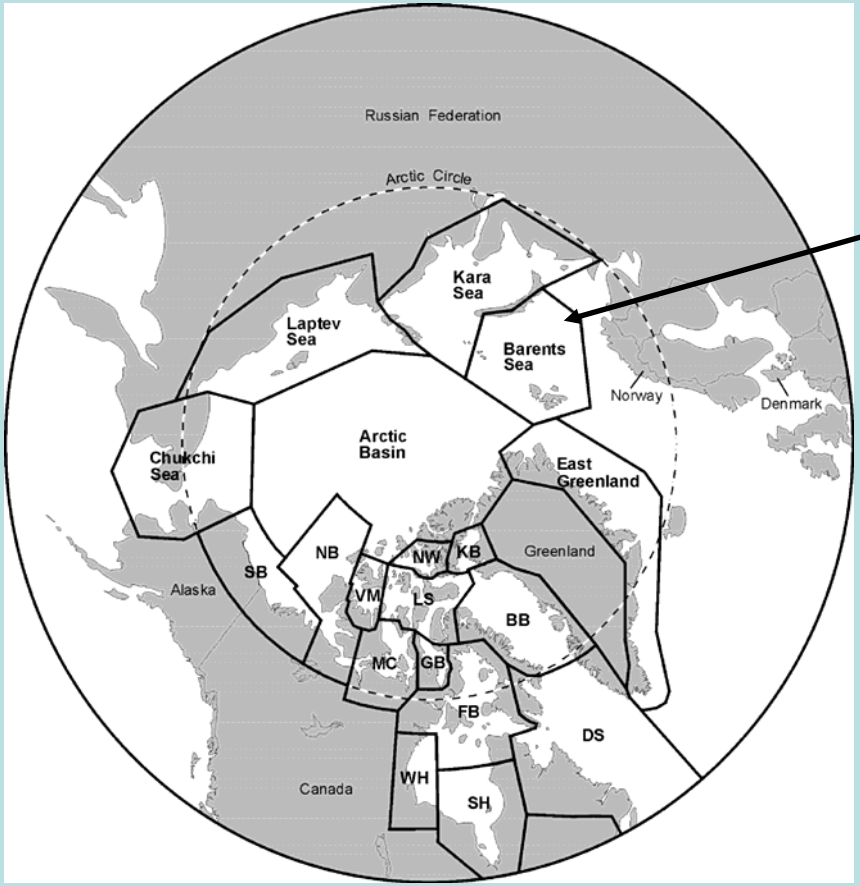
Polar bear research in Norway

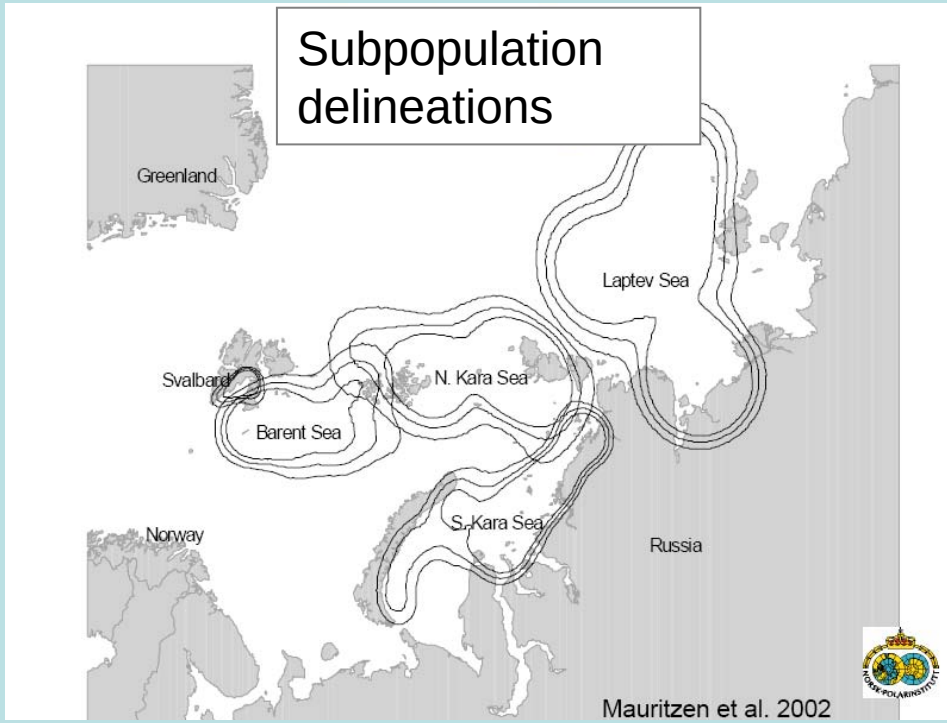
By: Jon Aars

Five arctic nations responsible for polar bear management





Barents Sea, one out of 19 subpopulations



Research areas:

- demography
- climate
- toxicology
- health
- behaviour
- population genetics

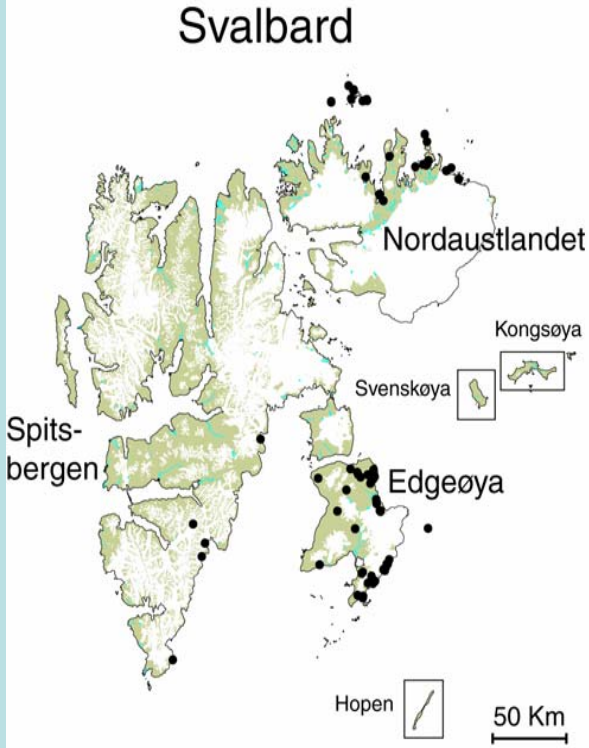
Climate

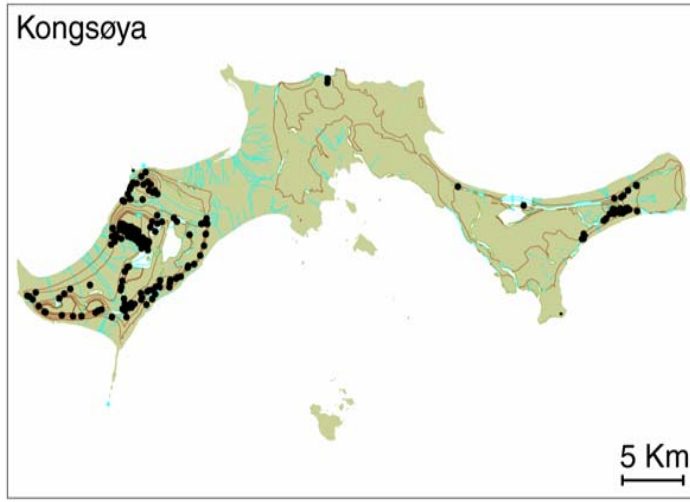
photo: Kit Kovacs

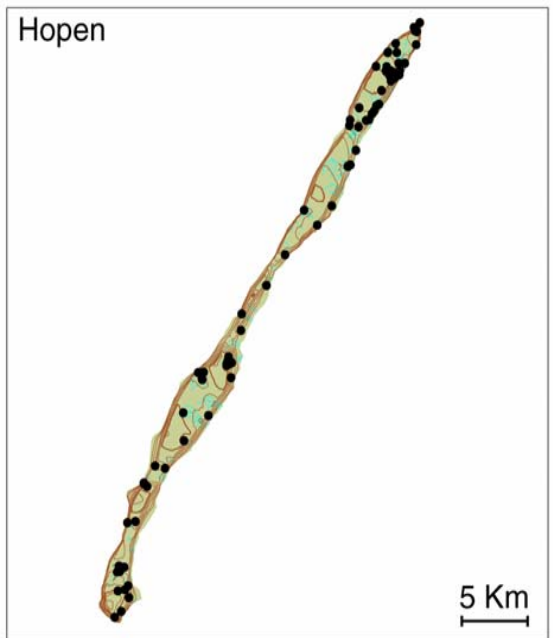
Polar bear denning areas in Svalbard

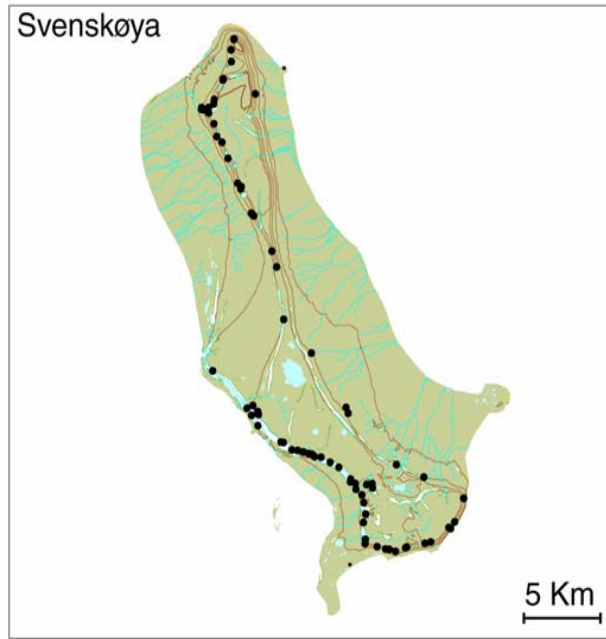
Sea ice important for movement between denning islands and hunting areas

Few dens if islands are not surrounded by sea ice in fall









Population Genetics

PhD Student

Focus on philopatry, do females den in the areas where they were born?

If yes: more vulnerable to climate changes

Food: mainly ice associated seals

Bearded seal
Erignathus barbatus

Ringed seal
Phoca hispida

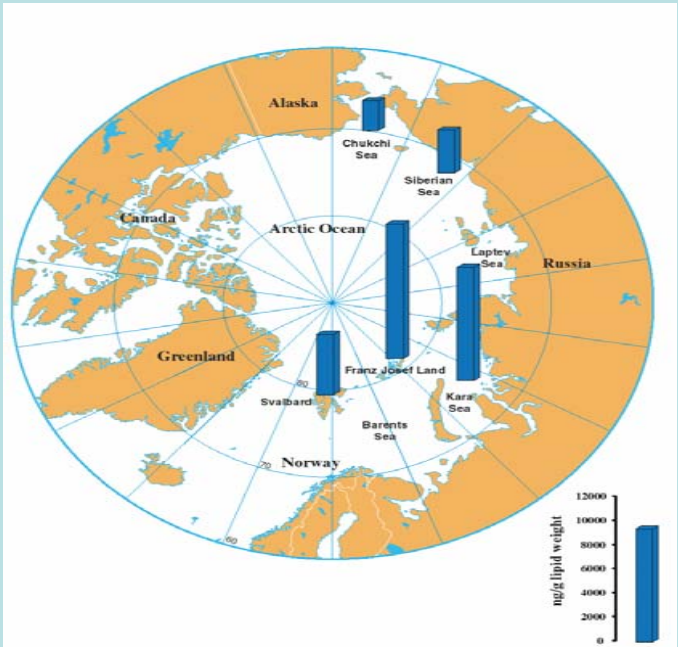
Toxicology

Very high levels of organic fat soluble pollutants

Effects on immune response and hormone levels shown

Concern about effects on survival and/or reproduction

Several PhD and Master theses, one PhD IPY project running on toxicology, health and related to climate



Polar bear PCB levels

Svalbard-Alaska

Capture-recapture

Since 1967, 1356 different bears have been marked, and have provided 304 recaptures.

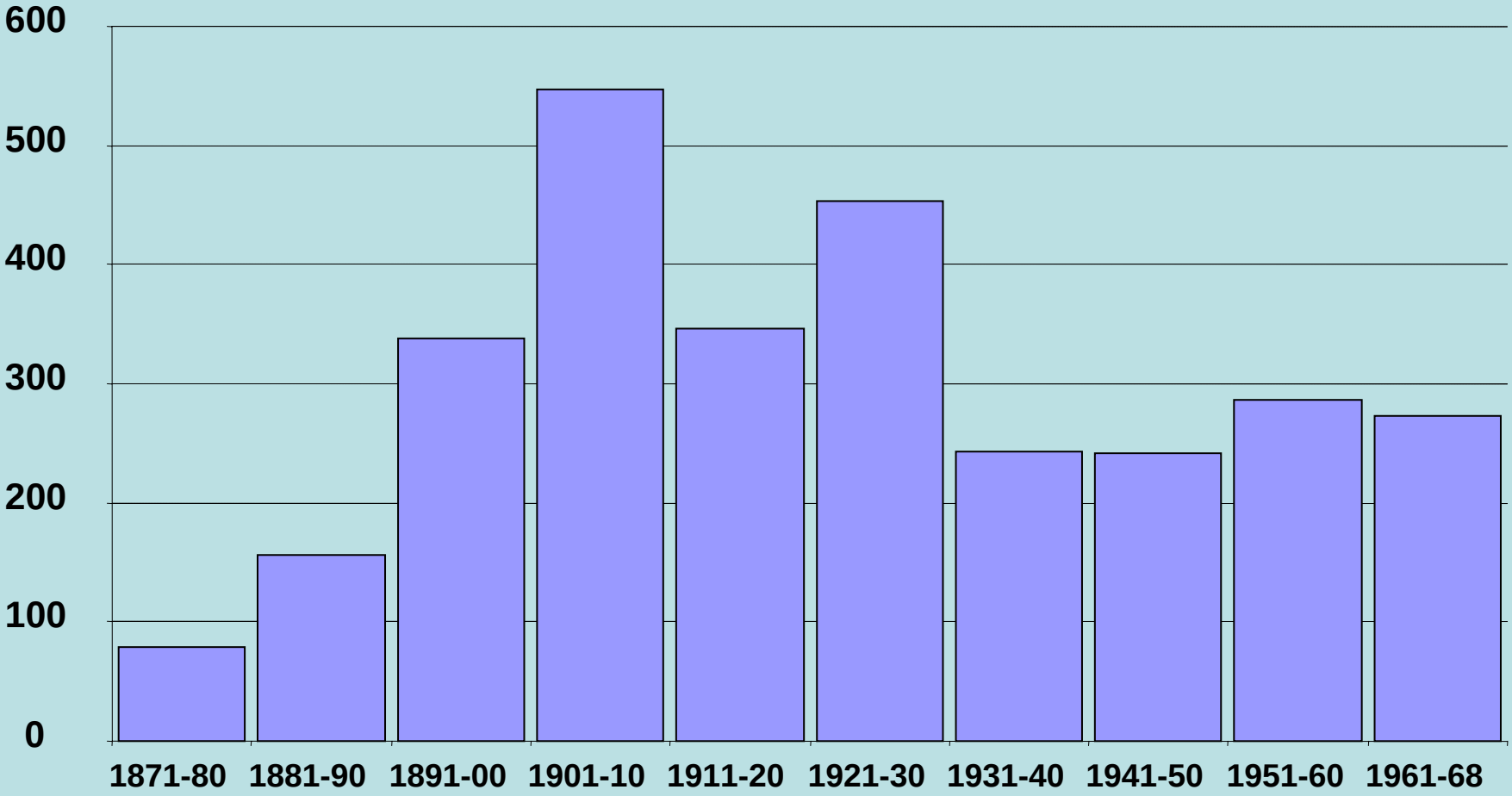
87 % of the captures were conducted between 1990 and 2007

foto: Oddvar Instanes, AIRLIFT

Estimate, Barents Sea Area, August 2004

Out of the 3000, 2200 were at the ice edge!

Historical harvest per year in the Barents area (Lønø 1970)

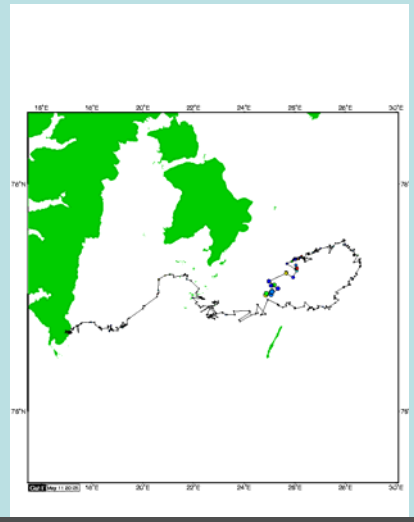


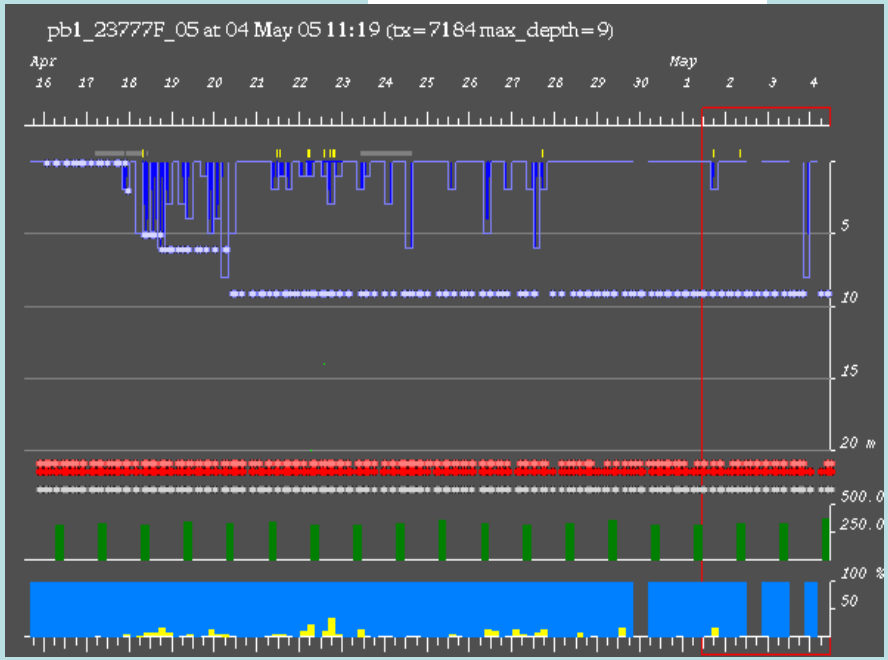
This level of hunting would suggest a subpopulation of 10 000 individuals! (without immigration)

Use of salt water switches to study swimming behaviour

-Oil risk models

-climate

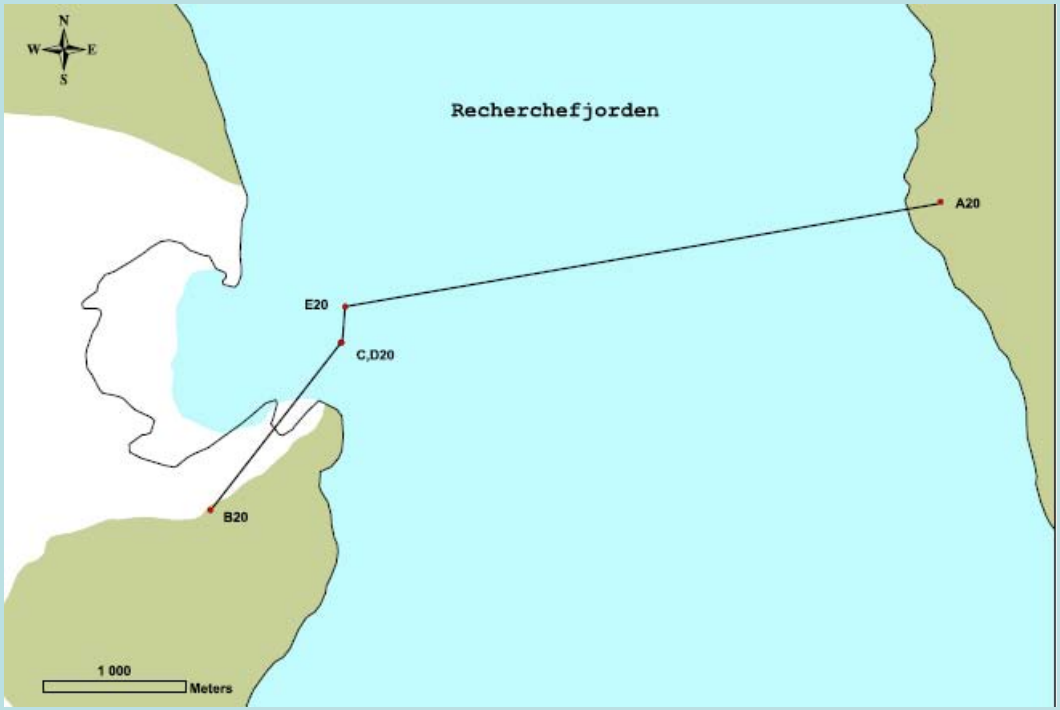




Responses to snow mobiles, a behavioural study

Looking for polar bears

Polar bear response (DE) to snowscooters



Average distance of reaction ca. 1 km

Females with cubs of the year more profound reaction than other individuals